

REMARKS

This Amendment is responsive to the final Office Action mailed on March 8, 2006. Claims 16-27 are pending. Claims 25 and 26 are allowed. Claims 24 and 27 stand rejected as being indefinite, and have been amended herein to overcome the indefiniteness rejection. Amended claims 24 and 27 incorporate the language which the examiner used as the basis for his examination of these claims, i.e., that the channel "is the inside of a bent pipe." See paragraph 10 of the March 8, 2006 Office Action. Since these claims were already examined on the basis of this language, no new issues are raised by the amendment that would require further consideration or search. Accordingly, amended claim 27, which depends on allowed claim 25, is believed to be in immediate condition for allowance, and entry and allowance of the amended claim is respectfully requested. Entry of the amendment to claim 24 is also requested.

Claims 16-24 stand rejected as being obvious over newly cited Mead et al. U.S. Patent 2,770,924 in view of Russell U.S. Patent 4,773,113. The Examiner contends that Mead teaches a shot-peening apparatus. This is incorrect. Mead discloses apparatus for cleaning surfaces using an abrasive material that is impinged against the surface to be cleaned. See, e.g., column 1, lines 15-25. The intent is to remove paint, rust, scale or the like from the surface that is impinged. The main object of the Mead invention is to avoid scattering the spent abrasive and the removed material over the adjacent area.

The objective of Mead is achieved by connecting a suction line E to a surface-treating head or gun A so that the spent abrasive and the removed material is sucked from the treated surface immediately after the abrasive particles hit the surface to be treated. In connection with this intended operation, an air-pervious maze 63, baffle 80 and body 81 provide a "hood" that encloses a portion of the surface around the area being cleaned. See column 5 lines 43-45, and column 5 line 74 to column 6 line 2. From Figures 2 and 3, it can be seen that the only part of the apparatus that comes into contact with the surface being cleaned (other than the abrasive), is the maze 63. The abrasive supply line B does not come anywhere near the surface being cleaned.

Still further, the abrasive of Mead is blasted in a straight line from the jet assembly D to the surface being cleaned via the blasting gun A. There is no deflection of this longitudinal blast; it travels straight through the jet assembly and blasting gun to the work surface, as shown in Figures 2 and 3.

With the above in mind, Applicant respectfully disagrees with the Examiner's reading of the Mead reference onto Applicant's claims. Claim 16 relates to "shot-peening apparatus for shot-peening." Mead is not a shot-peen apparatus. Blast cleaning with abrasive particles is entirely different than shot-peening. The Mead apparatus is intended for and is only suitable for removing material. Shot-peening, on the other hand, is a method for improving the strength of metallic surfaces by compacting (consolidating) the metal at its surface and in a zone immediately below the surface.

Applicant's claim 16 also recites a flexible plastic tube advanceable through the bent portion of a channel for introducing a stream of shot-peening particles into the bent portion. The Examiner points to the abrasive supply line B of Mead as being equivalent. However, supply line B does not introduce shot-peening particles into a channel; it only carries a cleaning abrasive.

Claim 16 further recites a particle deflection and outlet device for directing the shot-peening particles against the inner wall of the channel. The Examiner contends that jet nozzle 60 shown in Figure 3 of Mead meets this limitation. However, the jet nozzle 60 is only used to manipulate the annular gap 62 between the jet and the mixing tube to adjust the amount of abrasive that flows in a given time interval. See Mead column 6, lines 5-21. Nozzle 60 does not "deflect" (i.e., change the direction or course of) shot-peening particles so that they impinge the inner wall of a channel. As can be seen in Mead Figures 2 and 3, the abrasive cleaning particles are at all times shot straight through the apparatus from the jet assembly and blasting gun to the work surface. Compare this to Applicant's Figure 1, where it is seen that the shot-peening particles from the tube 20 travel longitudinally through the tube to nozzle 22, where they are deflected (90° in the example shown) by the deflection member 26. There is nothing even remotely similar in the Mead apparatus.

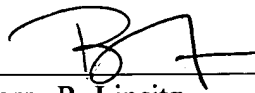
The only deflection of particles in Mead occurs when the abrasive particles first hit the surface to be treated. After hitting this surface, the abrasive particles are deflected in order to be sucked into the suction pick-up line E. This deflection has nothing to do with the deflection provided by the particle deflection device of Applicant's claim 16, which directs the shot-peening particles against the inner wall of a channel. In particular, in Applicant's structure the shot-peening particles hit the wall only *after* deflection by the deflection device. In contrast thereto, in Mead the abrasive particles first hit the surface to be treated, and are then deflected in order to be sucked into the suction pick-up line E.

Finally, Applicant's claim 16 requires an elongated helically wound wire enclosing said tube for reducing friction between the tube and said inner wall when the tube is advanced through the channel. The Examiner cites Russell as teaching an elongated helically wound wire enclosing a plastic tube. However, the abrasive supply line B in Mead, even if surrounded by such a helically wound wire, would never contact (and is certainly not intended to contact) the work surface being cleaned. Even in the creative example given by the Examiner, where "if the pipe is big enough for me to stand in I could hold this tool and peen the walls", the abrasive supply line B would not contact the walls of the pipe. In Mead, the abrasive particles are dispensed from the blasting gun A perpendicular to the work surface 10. With such a structure, the supply line B would never ride along the wall surface as the apparatus is advanced. Only the maze 63 contacts the work surface. Thus, an elongated helically wound wire enclosing the supply line B would not reduce friction between the supply line and the pipe wall, because there is no such friction to begin with. Clearly, there would be no motivation to combine Mead and Russell, as there is no need to reduce friction in Mead where the supply line B would never touch the work surface to cause friction in the first place. Applicant's claimed structure would therefore not have been obvious to one skilled in the art.

Further remarks regarding the asserted relationship between Applicants' claims and the prior art are not deemed necessary, in view of the foregoing discussion. Applicants' silence as to any of the Examiner's comments is not indicative of an acquiescence to the stated grounds of rejection.

In view of the above, the Examiner is respectfully requested to enter this Amendment and formally allow each of the pending claims. If there are any remaining issues that need to be addressed in order to place this application into condition for allowance, the Examiner is requested to telephone Applicants' undersigned attorney.

Respectfully submitted,



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